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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,713	05/06/2005	Eric D. Mathews	12090-004US1	8357
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EXAMINER VORTMAN, ANATOLY				
ART UNIT 2835		PAPER NUMBER		
MAIL DATE 02/28/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/509,713

**Applicant(s)**

MATHEWS ET AL.

**Examiner**

ANATOLY VORTMAN

**Art Unit**

2835

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 12-17, 21 and 23-30 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 18-20 and 22 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/01/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Specie III, Fig. 7 and 8, claims 1-14, 16-20, and 22 in the reply filed on 01/09/2008 is acknowledged. Applicant's attention is hereby directed to the fact that the elected claims 12-14, 16, 17, and 20, do not read on the elected Specie III. Regarding claims 12, 13, 16, and 17, the parent claim 12 recites, *inter alia*: "the proximal section comprises an extension of the intermediate section, the extension having a smaller diameter than the intermediate section". The aforementioned feature is of the non-elected Specie II (Fig. 5 and 6). Further, regarding claim 14, the claim recites, *inter alia*: "thermometric section comprises the proximal section of the core-wire". The aforementioned feature is also not the characteristic of Specie III, which as depicted on Fig. 7 and 8 has a distal section of the core-wire formed as the thermometric section.. Therefore, claims 12-14, 16, 17, and 20, are being withdrawn from further consideration along with the remaining non-elected claims. The Office action on claims 1-11, 18-20, and 22, drawn to the elected Specie III, follows:

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11, 18, 19, and 20, are rejected under 35 U.S.C. 102(b) as being anticipated by US/6,329,069 to Azizi et al (Azizi).

Regarding claims 1-10, 19, and 20, Azizi disclosed (Fig. 19) a temperature-controlled actuator comprising: a flexible tube housing (152) having a proximal end and a moveable (hinged) flexible distal portion (158) that assumes a pre-determined shape when in an equilibrium state; said housing defines a path when in a compressed state (inherently), a nickel-titanium (col. 13, line 12) core-wire (141, 147, 148) extending along the housing (152), the core-wire having a thermometric distal section anchored to the distal portion of the housing (158), the distal section having an austenite state, and a martensite state, the distal section being configured to move the distal portion of the housing by transitioning between the austenite state and the martensite state in response to a temperature change along a thermometric section of the core-wire (depicted by dotted lines), and a proximal section (141, 147) in mechanical communication with the distal section, the proximal section transmitting tension to the distal section; a tensioning element (rigid sleeve) (154 or 156) enclosing the proximal portion of the flexible tube (152) and coupled to the proximal section (141, 147) of the core-wire, the tensioning element is constantly biased (when the core wire is straight) or variably (during the transition) so as to constantly apply a constant or variable tensioning force to the core-wire.

Regarding claims 11 and 18, Azizi disclosed an intermediate section between the proximal section and the distal section (inherently present, see also Fig. 25, where the intermediate section (171) is depicted), wherein the an austenite transition temperature of the

proximal section exceeds an austenite transition temperature of the intermediate section (inherently, so as to achieve the bend as shown in dotted lines).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azizi taken alone.

Regarding claim 22, Azizi disclosed all as applied to claim 1, but that the tensioning element comprises an axially moveable member engaging the core-wire for controlling the tension in the core-wire.

It would have been obvious to a person of ordinary skill in thermal actuator art at the time of the invention to provide the adjustability of the tension in the core-wire in the Aziza's actuator, in order to adjust mechanical characteristics thereof, so as to adapt the actuator for a particular application, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

*Conclusion*

6. The additional prior art made of record on PTO-892 was not relied upon, but is considered pertinent to Applicant's disclosure, because of the teachings of various devices comprising shape memory thermal actuators. Further, Applicant's attention is directed to the fact that IDS references US/5,114,402 and US/6,500,130 could have been also used for statutory rejection of the at least independent claim 1 of the instant application.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANATOLY VORTMAN whose telephone number is (571)272-2047. The examiner can normally be reached on Monday-Thursday, between 10:00 am and 8:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anatoly Vortman/

Primary Examiner, Art Unit 2835